

Attorney Docket No.: 944-3.79

Serial No.: 09/912,227

In the claims: The claims are as follows.

1. (Currently amended) A method for use by a second communication device in deciding whether to perform link adaptation for communication from a first communication device to the second communication device, the link adaptation resulting in a change in coding or modulation or both, the method comprising the steps of:

examining a signal received from the first communication device and so providing a first indication of the quality of the signal as received by the second communication device;

recording the first indication of the quality of the signal as received by the second communication device;

providing a second indication of the quality of the signal based on an outer loop power control process; and

deciding to perform link adaptation based on the first and second indication of the quality of the signal.

2. (Previously presented) The method of claim 1, wherein the first indication of the quality of the signal as received by the second communication device is either an SIR estimate, or an FER or BLER or corresponding statistic collected over a predetermined time period.

3. (Previously presented) The method of claim 1, wherein the second indication of the quality of the signal as received by the second communication device is either an SIR target value, or a changed SIR target value.

4. (Original) The method of claim 3, wherein the decision to perform link adaptation is based on whether the SIR target is to

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be changed to a value that is within some predetermined margin of a predetermined maximum or minimum SIR target.

5. (Original) The method of claim 3, wherein a succession of SIR target change commands are recorded, and further wherein the decision to perform link adaptation is based on whether a predetermined number of consecutive SIR target change commands are all either to increase the SIR target or to decrease the SIR target.

6. (Previously presented) The method of claim 3, wherein a succession of SIR target change commands are recorded, and further wherein the decision to perform link adaptation is based on whether a predetermined fraction of a predetermined number of the SIR target change commands are either to increase the SIR target or to decrease the SIR target.

7. (Previously presented) The method of claim 1, wherein the first communication device is selected from the group consisting of a mobile station and a base station and the second communication device is the other device in the group consisting of the mobile station and the base station.

Claim 8 is canceled.

Claim 9 is canceled.

10. (Previously presented) The method of claim 1, wherein the signal for which the first indication of quality is provided is different from, but associated with, the signal for which the link adaptation decision is made.

11. (Currently amended) An apparatus for use by a second

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communication device in deciding whether to perform link adaptation for communication from a first communication device to the second communication device, the link adaptation resulting in a change in coding or modulation or both, the apparatus comprising:

means for examining a signal received from the first communication device and so providing a first indication of the quality of the signal as received by the second communication device;

means for recording the first indication of the quality of the signal as received by the second communication device;

means for providing a second indication of the quality of the signal based on an outer loop power control process; and

means for deciding to perform link adaptation based on the first and second indication of the quality of the signal.

12. (Previously presented) The apparatus of claim 11, wherein the first indication of the quality of the signal as received by the second communication device is either an SIR estimate, or an FER or BLER or corresponding statistic collected over a predetermined time period.

13. (Previously presented) The apparatus of claim 11, wherein the second indication of the quality of the signal as received by the second communication device is either an SIR target value, or a changed SIR target value.

14. (Original) The apparatus of claim 13, wherein the decision to perform link adaptation is based on whether the SIR target is to be changed to a value that is within some predetermined margin of a predetermined maximum or minimum SIR target.

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15. (Original) The apparatus of claim 13, wherein a succession of SIR target change commands are recorded, and further wherein the decision to perform link adaptation is based on whether a predetermined number of consecutive SIR target change commands are all either to increase the SIR target or to decrease the SIR target.

16. (Previously presented) The apparatus of claim 13, wherein a succession of SIR target change commands are recorded, and further wherein the decision to perform link adaptation is based on whether a predetermined fraction of a predetermined number of the SIR target change commands are either to increase the SIR target or to decrease the SIR target.

Claim 17 is canceled.

Claim 18 is canceled.

Claim 19 is canceled.

20. (Previously presented) The apparatus of claim 11, wherein the signal for which the first indication of quality is provided is different from, but associated with, the signal for which the link adaptation decision is made.

21. (Previously presented) The method of claim 1, wherein the link adaptation decision is based on a succession of signal quality indicators provided by a function that generates an increase or decrease in signal quality indicator depending on whether or not a frame is correctly received.

22. (Previously presented) The apparatus of claim 11, wherein the link adaptation decision is based on a succession of signal

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quality indicators provided by a function that generates an increase or decrease in signal quality indicator depending on whether or not a frame is correctly received, and wherein both the first and second indications of the quality of the signal are such quality indicators.

23. (Currently amended) A method of deciding whether to perform link adaptation for communication from a first communication device to a second communication device, the link adaptation resulting in a change in coding or modulation or both, the second communication device examining a signal received from the first communication device and providing a first indication of the quality of the signal as received by the second communication device, the method comprising the steps of:

recording the first indication of the quality of the signal as received by the second communication device;

providing a second indication of the quality of the signal;
and

deciding to perform link adaptation based on the first and second indication of the quality of the signal;

wherein the second indication of the quality of the signal as received by the second communication device is either an SIR target value, or a changed SIR target value, ~~an ACK/NACK signal,~~
~~or a signal derived from a series of consecutive ACK/NACK signals;~~

and further wherein the decision to perform link adaptation is based on whether the SIR target is to be changed to a value that is within some predetermined margin of a predetermined maximum or minimum SIR target.

24. (Currently amended) A method of deciding whether to

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perform link adaptation for communication from a first communication device to a second communication device, the link adaptation resulting in a change in coding or modulation or both, the second communication device examining a signal received from the first communication device and providing a first indication of the quality of the signal as received by the second communication device, the method comprising the steps of:

recording the first indication of the quality of the signal as received by the second communication device;

providing a second indication of the quality of the signal; and

deciding to perform link adaptation based on the first and second indication of the quality of the signal;

wherein the second indication of the quality of the signal as received by the second communication device is either an SIR target value, or a changed SIR target value, ~~an ACK/NACK signal, or a signal derived from a series of consecutive ACK/NACK signals;~~

and further wherein a succession of SIR target change commands are recorded, and further wherein the decision to perform link adaptation is based on whether a predetermined number of consecutive SIR target change commands are all either to increase the SIR target or to decrease the SIR target.

25. (Currently amended) A method of deciding whether to perform link adaptation for communication from a first communication device to a second communication device, the link adaptation resulting in a change in coding or modulation or both, the second communication device examining a signal received from the first communication device and providing a first indication of the quality of the signal as received by the second

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communication device, the method comprising the steps of:

recording the first indication of the quality of the signal as received by the second communication device;

providing a second indication of the quality of the signal;
and

deciding to perform link adaptation based on the first and second indication of the quality of the signal;

wherein the second indication of the quality of the signal as received by the second communication device is either an SIR target value, or a changed SIR target value, ~~an ACK/NACK signal,~~
~~or a signal derived from a series of consecutive ACK/NACK signals;~~

and further wherein a succession of SIR target change commands are recorded, and wherein the decision to perform link adaptation is based on whether a predetermined fraction of a predetermined number of the SIR target change commands are either to increase the SIR target or to decrease the SIR target.

26. (Currently amended) A method of deciding whether to perform link adaptation for communication from a first communication device to a second communication device, the link adaptation resulting in a change in coding or modulation or both, the second communication device examining a signal received from the first communication device and providing a first indication of the quality of the signal as received by the second communication device, the method comprising the steps of:

recording the first indication of the quality of the signal as received by the second communication device;

providing a second indication of the quality of the signal;
and

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deciding to perform link adaptation based on the first and second indication of the quality of the signal;

wherein the link adaptation decision is based on a succession of signal quality indicators provided by a function that generates an increase or decrease in signal quality indicator depending on whether or not a frame is correctly received.

27. (Currently amended) An apparatus for deciding whether to perform link adaptation for communication from a first communication device to a second communication device, the link adaptation resulting in a change in coding or modulation or both, the second communication device examining a signal received from the first communication device and providing a first indication of the quality of the signal as received by the second communication device, the apparatus comprising:

means for recording the first indication of the quality of the signal as received by the second communication device;

means for providing a second indication of the quality of the signal; and

means for deciding to perform link adaptation based on the first and second indication of the quality of the signal;

wherein the second indication of the quality of the signal as received by the second communication device is either an SIR target value, or a changed SIR target value, ~~an ACK/NACK signal, or a signal derived from a series of consecutive ACK/NACK signals;~~ and

wherein the decision to perform link adaptation is based on whether the SIR target is to be changed to a value that is within some predetermined margin of a predetermined maximum or minimum SIR target.

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28. (Currently amended) An apparatus for deciding whether to perform link adaptation for communication from a first communication device to a second communication device, the link adaptation resulting in a change in coding or modulation or both, the second communication device examining a signal received from the first communication device and providing a first indication of the quality of the signal as received by the second communication device, the apparatus comprising:

means for recording the first indication of the quality of the signal as received by the second communication device;

means for providing a second indication of the quality of the signal; and

means for deciding to perform link adaptation based on the first and second indication of the quality of the signal;

wherein the second indication of the quality of the signal as received by the second communication device is either an SIR target value, or a changed SIR target value, ~~an ACK/NACK signal, or a signal derived from a series of consecutive ACK/NACK signals~~; and

wherein a succession of SIR target change commands are recorded, and further wherein the decision to perform link adaptation is based on whether a predetermined number of consecutive SIR target change commands are all either to increase the SIR target or to decrease the SIR target.

29. (Currently amended) An apparatus for deciding whether to perform link adaptation for communication from a first communication device to a second communication device, the link adaptation resulting in a change in coding or modulation or both, the second communication device examining a signal received from the first communication device and providing a first indication

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of the quality of the signal as received by the second communication device, the apparatus comprising:

means for recording the first indication of the quality of the signal as received by the second communication device;

means for providing a second indication of the quality of the signal; and

means for deciding to perform link adaptation based on the first and second indication of the quality of the signal;

wherein the second indication of the quality of the signal as received by the second communication device is either an SIR target value, or a changed SIR target value, ~~an ACK/NACK signal, or a signal derived from a series of consecutive ACK/NACK signals~~; and

wherein a succession of SIR target change commands are recorded, and further wherein the decision to perform link adaptation is based on whether a predetermined fraction of a predetermined number of the SIR target change commands are either to increase the SIR target or to decrease the SIR target.

30. (Previously presented) An apparatus for deciding whether to perform link adaptation for communication from a first communication device to a second communication device, the link adaptation resulting in a change in coding or modulation or both, the second communication device examining a signal received from the first communication device and providing a first indication of the quality of the signal as received by the second communication device, the apparatus comprising:

means for recording the first indication of the quality of the signal as received by the second communication device;

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means for providing a second indication of the quality of the signal; and

means for deciding to perform link adaptation based on the first and second indication of the quality of the signal;

wherein the link adaptation decision is based on a succession of signal quality indicators provided by a function that generates an increase or decrease in signal quality indicator depending on whether or not a frame is correctly received, and wherein both the first and second indications of the quality of the signal are such quality indicators.

31. (Currently amended) A system, comprising:

a first communication device;

a second communication device configured so as to be able to communicate with the first communication device; and

a controlling entity for controlling the second communication device in communicating with the first communication device;

wherein the second communication device includes an apparatus for use in deciding whether to perform link adaptation for communications from the first communication device to the second communication device, the link adaptation resulting in a change in coding or modulation or both, the apparatus comprising:

means for examining a signal received from the first communication device and so providing a first indication of the quality of the signal as received by the second communication device;

means for recording the first indication of the quality of the signal as received by the second communication device;

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means for providing a second indication of the quality of the signal based on an outer loop power control process; and

means for deciding to perform link adaptation based on the first and second indication of the quality of the signal.

32. (New) A method, comprising the steps of:

receiving a signal from a communication device via a communication channel;

examining the signal and determining from the examination a value for a first indicator of quality of the communication channel;

providing a value for a second indicator of quality of the communication channel based on the value of the first indicator and at least one previous value of the first indicator; and

deciding based on the second indicator to perform link adaptation for the communication channel resulting in a change in coding or modulation or both for communication via the communication channel.

33. (New) A system, comprising:

means for receiving a signal from a communication device via a communication channel;

means for examining the signal and determining from the examination a signal to interference ratio as a value for a first indicator of quality of the communication channel;

means for providing a value for a second indicator of quality of the communication channel based on the value of the first indicator and at least one previous value of the first indicator; and

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means for deciding based on the second indicator to perform link adaptation for the communication channel resulting in a change in coding or modulation or both for communication via the communication channel.

34. (New) A method, comprising the steps of:

receiving a signal from a communication device via a communication channel;

examining the signal and determining from the examination a value for a signal to interference ratio as a value for a first indicator of quality of the communication channel;

providing a value for a second indicator of quality of the communication channel based on at least the value of the first indicator; and

deciding based on the second indicator to perform link adaptation for the communication channel resulting in a change in coding or modulation or both for communication via the communication channel.

35. (New) A system, comprising the steps of:

means for receiving a signal from a communication device via a communication channel;

means for examining the signal and determining from the examination a value for a signal to interference ratio as a value for a first indicator of quality of the communication channel;

means for providing a value for a second indicator of quality of the communication channel based on at least the value of the first indicator; and

means for deciding based on the second indicator to perform link adaptation for the communication channel resulting in a

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change in coding or modulation or both for communication via the
communication channel.